

Chapter 2. Changes to Draft EIS Text

This chapter identifies the specific changes to the text of the Draft EIS. Text changes are organized by the chapters and sections of the Draft EIS. For each change, the location of the change is identified by page and paragraph number of the Draft EIS. Where text has been modified, deleted text is indicated in “~~striketthrough~~” format and new text is underlined.

Acronyms and Abbreviations

Page VII, the following entry is modified as follows:

BGPLR~~Θ~~ Battelle Gravitational Physics Laboratory~~Research Observatory~~

Glossary

Page XIV, the following entry is added:

<u>Special status species</u>	<u>Plants and animals listed for special protection or management consideration by federal or state authorities. Federal status species include species listed as endangered or threatened by the USFWS, species formally proposed for listing, and candidates for listing. State status wildlife species are listed by the WDFW Wildlife Management Program as endangered, threatened, sensitive, or as candidates for these designations. State status plant species are those identified by the Washington Natural Heritage Program as endangered, threatened, sensitive, review, or extirpated, and those on the “watch” list (i.e., species more abundant or less threatened than previously assumed)</u>
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Summary

Page S-3, paragraph 7 is modified as follows:

The major facilities of the project include up to 549 wind turbines with small transformers at the base of each turbine tower, underground and overhead collector cables, access roads, up to two substations, up to three operation and maintenance buildings, a potential 4-mile 230-kilovolt (kV) transmission line, and up to four meteorological towers (see Figure 2.1-2). Construction of the project could begin in ~~summer 2002~~ early 2003, with at least partial power generation expected as early as ~~winter 2002~~ December 2003. Construction of the full project would take about nine months.

Page S-7, Table S-1, the following entries are modified as follows:

TABLE S-1

Potential Impacts and Mitigation of the Proposed Maiden Wind Farm

Potential Impact	Impact Level Prior to Mitigation	Proposed Mitigation Measures (ⓧ) = Standard design and/or construction measures proposed as part of the project to reduce potential impacts (Ⓢ) = Additional mitigation proposed to further reduce potential impacts	Residual Impacts After Mitigation
1. Land Use and Recreation			
Construction The science program operations of the Laser Interferometer Gravitational-Wave Observatory (LIGO) and the Battelle Gravitational Research Observatory-Physics Laboratory (BGPLRO) on the Hanford Site could potentially be adversely impacted by project construction activities (e.g., blasting for foundations and quarry operations), estimated to last about one-half of the construction period.	Moderate to High	C. Notify the facilities in advance of construction activities with the potential to cause significant vibration or noise. (Ⓢ)	Low
No designated-developed public recreational facilities exist in the study area. Limited temporary impacts to private landowner-approved activities such as hunting or photography could occur during project construction.	Low	None necessary.	Low
Operation and Maintenance Less than 100 acres of Conservation Reserve Program (CRP) contracts would be terminated where permanent project facilities would be located.	Low	D. Proposed mitigation measures for vegetation and wildlife impacts include <u>revegetation, replacement, or enhancement</u> ing, <u>protecting, and creating additional</u> of natural habitat on existing private lands, <u>particularly CRP land</u> , near the project site. See 2.A. below. (Ⓢ)	Low
The scientific programs at the LIGO and BGPLRO facilities on the Hanford Site could potentially be adversely impacted by seismic vibrations and acoustic noise from operation of the wind turbines. Such an impact is not expected due to the expected low levels of vibration that would be generated by the project and the distance between the project and these facilities. <u>If operations at the facilities were substantially impaired, this would be considered a high and significant impact.</u>	Low to High	F. A seismic study will be completed in consultation with the facilities prior to construction to determine whether operation of the proposed project would disrupt the research facilities. Results of the study will be discussed in the Final EIS. If high and significant impacts to the LIGO facility occur, possible mitigation could include funding the installation of vibration isolators to minimize the potential for vibrations from the proposed project to affect this facility. No mitigation is known that would mitigate potential impacts from the project to the BGPL facility if they occur, other than funding relocation of this facility. (Ⓢ)	Low to High
No designated-developed public recreational facilities exist in the study area. Minor temporary modifications of activities allowed at landowner discretion, such as hunting or photography, could occur during project operation.	Low	None necessary.	Low

TABLE S-1

Potential Impacts and Mitigation of the Proposed Maiden Wind Farm

Potential Impact	Impact Level Prior to Mitigation	Proposed Mitigation Measures (✗) = Standard design and/or construction measures proposed as part of the project to reduce potential impacts (☞) = Additional mitigation proposed to further reduce potential impacts	Residual Impacts After Mitigation
2. Vegetation			
Construction			
Approximately 57.5 acres of priority shrub-steppe habitat would be permanently displaced by project facilities and 174.4 acres would be temporarily impacted by project construction activities.	Low to Moderate	A. Total acres of <u>shrubby-steppe, grassland-steppe and lithosol</u> habitat types impacted, <u>whether formally designated as priority habitat or not</u> , would be <u>revegetated</u> , replaced, or enhanced in similar proportions at a ratio of 3:1 by either enhancing local CRP lands to facilitate their recovery to high-quality steppe habitat, or by creating steppe habitat from nearby agriculture lands by reclaiming them with native grass and shrub species. <u>Revegetation of temporarily impacted acres would be included in the 3:1 ratio.</u> In selecting mitigation areas, priority may be given to areas with remnant lithosol habitat, as lithosol is extremely difficult to replicate, as well as areas that would best enhance reproductive rates of wildlife species likely to be impacted by the project. Any enhanced or replacement acres would be protected for the life of the project from development, grazing, or conversion to other habitat types. (☞)	Low
Approximately 12.2 acres of priority lithosol habitat would be permanently impacted and 50.9 acres temporarily impacted by project facilities.	High		Moderate
Improvements to the existing access road along Sulphur Creek would impact less than 5 percent of the priority riparian habitat in the study area.	Low	B. Prior to the start of construction, convene a Site Management Plan Team (SMPT) to prepare a Site Management Plan (SMP). The SMPT would include representatives from the U.S. Fish and Wildlife Service (USFWS), Washington Department of Fish and Wildlife (WDFW), Washington Department of Natural Resources (DNR), BPA, county representatives, landowners, and the project developer. The role of the SMPT would be to 1) protect the natural and agricultural resources identified in this EIS during construction by minimizing the areal extent and pattern of construction activities to that necessary for the efficient conduct of construction operations; 2) protect sensitive and unique species and habitats; and 3) assure the effective implementation of the standard design and construction measures proposed as part of the project, as well as mitigation measures included both during and post-construction. (☞) The SMP would include provisions for: 1) the siting of towers to minimize impacts on lithosol and rare plant communities; 2) the design and implementation of a fire management and	Low

TABLE S-1

Potential Impacts and Mitigation of the Proposed Maiden Wind Farm

Potential Impact	Impact Level Prior to Mitigation	Proposed Mitigation Measures <i>(S)</i> = Standard design and/or construction measures proposed as part of the project to reduce potential impacts <i>(SP)</i> = Additional mitigation proposed to further reduce potential impacts	Residual Impacts After Mitigation
		<p>erosion control program/procedures;</p> <p>3) the location and physical marking of the boundaries of project storage and staging areas and soil deposition sites;</p> <p>4) procedures to keep the site clean daily of unconstrained project waste and toxics (petroleum products, paper, cans, materials remnants etc.) designate areas, and provide facilities and procedures for safe storage of toxic and hazardous substances;</p> <p>5) minimizing the extent of construction related roads and access routes;</p> <p>6) methods of delineation and marking (i.e. fencing, taping flagging) off-limit areas such as sensitive plant communities;</p> <p>7) size, location, and type of off-site habitat enhancement / replacement for revegetating, replacing, or enhancing the estimated 57.5 acres of shrub steppe, and 12.2 acres of lithosol, and 57.2 acres of grassland-steppe permanently impacted by the project;</p> <p>8) selecting recipient sites, restoration plans, and protocols for revegetating, replacing, or enhancing the estimated 174.4 acres of shrub-steppe, and 50.9 acres of lithosol, and 187 acres of grassland-steppe habitat that would be temporarily impacted by project construction activities;</p> <p>9) route project access roads to avoid, where possible, adverse impacts to sensitive vegetation, including wetlands;</p> <p>10) education of the construction work force relative to respecting and adhering to the physical boundaries, off-limit areas, fire and weed prevention measures etc., of the SMP;</p> <p>11) a weed control plan with protocols and procedures, vehicle cleaning and parking locations, etc., for minimizing the introduction of weed species to the construction site;</p> <p>12) a complete site plan for the SMP would be laid out (fenced, flagged, taped with use areas designated) on the ground prior to the start of construction of any phase of the project.</p> <p><i>(SP)</i></p>	

TABLE S-1

Potential Impacts and Mitigation of the Proposed Maiden Wind Farm

Potential Impact	Impact Level Prior to Mitigation	Proposed Mitigation Measures (S) = Standard design and/or construction measures proposed as part of the project to reduce potential impacts (SP) = Additional mitigation proposed to further reduce potential impacts	Residual Impacts After Mitigation
<p>The introduction of new noxious weed species could occur from construction equipment, vehicles, and worker's boots transporting seeds onto the project site. Once established in an area, negative impacts can include the following:</p> <p>?? Loss of wildlife habitat ?? Alteration of wetland and riparian functions ?? Reduction in livestock forage and crop production ?? Displacement of native plant species ?? Reduction in plant diversity ?? Changes plant community functions ?? Increased soil erosion and sedimentation ?? Control and eradication costs to local communities ?? Reduction in land value ?? Potential to change fire frequency and intensity.</p>	Low to High	<p>F. Prior to construction, a noxious weed control plan would be developed in consultation with local county weed control boards. The plan would be implemented over the life of the project. The plan would include specific measures such as the following:</p> <p>?? Clean construction vehicles prior to bringing them to the project site. ?? Revegetate habitats temporarily disturbed as quickly as practicable with native species to minimize habitat (disturbed areas) for noxious weed invasion. ?? Actively control noxious weeds that have established themselves. Coordinate with the local county weed control boards regarding what control measures are most effective and coordinate with the appropriate agencies on how to avoid impacts to special status plants as a result of weed control measures. (SP)</p>	Low to High
3. Wildlife			
<p>Construction</p> <p>Approximately 414 acres of native habitat (nonagricultural land) would be temporarily removed or damaged during project construction. See Vegetation section, above, for specific mitigation.</p> <p>Bald eagle, a federal- and state-threatened species, is <u>considered</u> a possible rare migrant in the study area. <u>One bald eagle was observed in the study area incidentally; however, they are but has not been documented and is not expected to occur in the study area on a regular basis.</u></p> <p>Peregrine falcon, a federal species of concern and Washington endangered species, is a rare migrant through the study area. <u>Only two individuals were observed in the study area during surveys.</u></p>	<p>Low to High</p> <p>Low</p> <p>Low</p>	<p>A. As discussed in 2.B. above, prior to the start of construction, convene a Site Management Plan Team (SMPT) to prepare a Site Management Plan (SMP). The SMP would include provisions for:</p> <ol style="list-style-type: none"> 1) placement of towers the minimum distance from raptor nesting sites according to WDFW Management Plan criteria; 2) maintaining reasonable driving speeds so as not to harass or accidentally strike wildlife; 3) methods of delineation and marking (i.e. fencing, taping flagging) off-limit areas such as sensitive plant communities and raptor nest sites; 4) if any new nesting, denning, or otherwise sensitive wildlife 	<p>Low to Moderate</p> <p>Low</p> <p>Low</p>

TABLE S-1

Potential Impacts and Mitigation of the Proposed Maiden Wind Farm

Potential Impact	Impact Level Prior to Mitigation	Proposed Mitigation Measures (✗) = Standard design and/or construction measures proposed as part of the project to reduce potential impacts (☞) = Additional mitigation proposed to further reduce potential impacts	Residual Impacts After Mitigation
Golden eagle, a Washington candidate species, is a rare migrant and possible winter resident in the study area. One Golden eagle was observed in the study area during fall, winter, and spring surveys. They have also been documented on the nearby ALE during the winter in low numbers. They are not expected to occur in the study area on a regular basis.	Low	<p>sites are located during construction, these areas would be mapped, marked, and included in the off-limit areas;</p> <p>5) seasonal timing of construction to avoid, as best practicable, the courting, nesting and breeding season of sensitive avifauna;</p> <p>6) a complete site plan for the SMP would be laid out (fenced, flagged, taped with use areas designated) on the ground prior to the start of construction of any phase of the project. (☞)</p> <p>B. As discussed in 2.C. above, an SMP monitor would be at the project site daily during construction activities to ensure adherence to the provisions of the SMP and keep a daily record of activities, decisions, etc. relating to that objective. (☞)</p> <p>C. Results of the baseline avian surveys would be used to help with final project design, turbine siting, and mitigation planning via the SMP. (✗)</p>	Low
Ferruginous hawk, a federal species of concern and Washington threatened species, is a breeding resident of the study area, and has been observed during surveys. In 2001, four active nests were located within 5 miles of the project site, including one within 0.25 mile of a proposed turbine string. Project construction could affect breeding ferruginous hawks through disturbance if construction were to occur near an active nest. Nesting and foraging habitat could potentially be reduced if ferruginous hawks avoid the area during and after project construction.	Moderate	E. The ferruginous hawk nest near the project site would be monitored by a wildlife biologist prior to construction to determine occupancy and the need for possible construction timing restrictions. If the nest is active, a buffer of at least 0.6 miles, as recommended by the Washington State Recovery Plan for Ferruginous Hawk (Richardson, 1996), would be established around the nest where no construction activity would occur until the nest was no longer active. This area would be flagged as off-limits to disturbance by construction personnel. (☞)	Low
Operation and Maintenance Approximately 128 acres of native habitat would be permanently removed for project facilities. This area may currently support wildlife by providing food, cover, or space for a variety of species.	Low to High	<u>Impacts to birds and other wildlife would also be mitigated by habitat revegetation, replacement, or enhancement as described in See 2.A. and 2.B., above, for specific mitigation.</u>	Low to Moderate
Ferruginous hawk, a federal species of concern and Washington threatened species, is a breeding resident of the study area. The project may could result in <u>up to about</u> one death per year.	High	G. Ferruginous hawk nesting opportunities, as identified by the Washington State Recovery Plan for Ferruginous Hawk, would be constructed or created in areas of native habitat more than 5 miles away from the proposed project and any other proposed wind plants in the area. At least three nesting opportunities would be created, monitored, and maintained for a minimum of 5 years for each nest impacted by construction of the project. The	Moderate to High
Peregrine falcon, a federal species of concern and Washington endangered species, is a rare migrant through the study area <u>and may have</u> but has a potential risk of collision with wind turbines.	Low		Low

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Potential Impacts and Mitigation of the Proposed Maiden Wind Farm

Potential Impact	Impact Level Prior to Mitigation	Proposed Mitigation Measures <i>(S)</i> = Standard design and/or construction measures proposed as part of the project to reduce potential impacts <i>(P)</i> = Additional mitigation proposed to further reduce potential impacts	Residual Impacts After Mitigation
<p>Golden eagle, a Washington candidate species, is a rare migrant and winter resident in the study area and may be at risk of collision with wind turbines. Expected Potential mortality of golden eagle could be as high as one per year.</p> <p>Loggerhead shrike (a federal species of concern and Washington candidate species), sage thrasher, and sage sparrow (Washington candidate species) have been observed in spring and summer ary surveys and are likely breeding residents in big sagebrush stands in the project area. They could be at risk of collision with wind turbines; however, use estimates for these species are relatively low.</p> <p>With full build-out of the proposed project, a range of 0-9 raptor fatalities per year would be expected. The range of potential bird mortality for passerines would be expected to fall between approximately 360 and 1565 birds per year. The per turbine mortality rate for all birds would be expected to be between 0.6 and 2.8 birds per turbine per year.</p> <p>Migratory bat species are at risk of collision with wind turbines, most likely during migration periods. Full build-out of the proposed project could result in approximately 400 bat fatalities per year. Both hoary bats and silver-haired bats, two common fatalities at other wind plants, have been recorded on the nearby ALE and are expected to migrate through the study area. No federal or state endangered or threatened bats would potentially be affected by the project.</p>	<p>Low</p> <p>Low</p> <p>Low to Moderate</p> <p>Low</p>	<p>location, type of nesting opportunities, and monitoring program would be approved by the WDFW. <i>(P)</i></p> <p>H. Long term impacts of wind turbines on other raptor nesting/foraging areas would be mitigated by: 1) avoiding placement of any facilities within 0.6 mi. of any nest; or 2) placing additional nesting structures (3 per existing nest within 0.6 mile of wind turbines) in suitable nesting areas at least 1 mile away from any wind turbines <u>for each nest impacted by construction of the project.</u> <i>(P)</i></p> <p>I. Raptor anti-perching devices would be installed on all new overhead power line poles within 1 mile of turbine strings to limit potential raptor use near the wind turbines. All power lines would be constructed following <i>Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996</i> (APLIC, 1996); specifically, conductors would be spaced as recommended by the study to minimize the potential for bird electrocution. <i>(S)</i></p> <p>J. A post-construction monitoring program would be developed in coordination with the SMPT. The program would monitor avian use of the site and avian and bat mortality using standardized carcass searches, and scavenging and searcher efficiency trials during the first year of operation of the project. <i>(P)</i></p> <p>Other mitigation may be implemented if identified through Section 7 consultation with the USFWS. <i>(P)</i></p>	<p>Low</p> <p>Low</p> <p>Low to Moderate</p> <p>Low</p>

TABLE S-1

Potential Impacts and Mitigation of the Proposed Maiden Wind Farm

Potential Impact	Impact Level Prior to Mitigation	Proposed Mitigation Measures (⌘) = Standard design and/or construction measures proposed as part of the project to reduce potential impacts (☞) = Additional mitigation proposed to further reduce potential impacts	Residual Impacts After Mitigation
4. Visual Resources			
Operation and Maintenance The Federal Aviation Administration (FAA) could require as many as 125 to 175 flashing red (nighttime) and white (daytime) lights on top of the wind turbines for aircraft safety. Although these lights are meant to be visible from aircraft and less visible from ground level, the presence of these lights could create a substantial change in daytime views and the night sky from residential areas and roadways, and would add a new source of light and glare.	Low to High	B. Among the FAA approved lighting devices available, use those that are designed to be least visible from the ground level of the surrounding landscape, <u>and least disruptive to nighttime bird and bat migrants.</u> (☞)	Low to High
5. Cultural Resources			
Construction Many of the cultural resources in the study area could be significantly and adversely affected by project construction. However, most archaeological sites in the study area are small in size and appear to be avoidable with careful siting of project facilities. Cultural resources other than archaeological features, such as traditional cultural properties (TCPs), may also be present within or adjacent to the project site and could be adversely impacted. Information provided by the Wanapum elders is strongly suggestive that a TCP is present on the ridgetops of the Rattlesnake Hills; however, formal oral history investigations with the Yakama Nation and Wanapum Band have not yet occurred.	High	A. Mitigation measures would follow procedures outlined in 36 <i>Code of Federal Regulations</i> (CFR) 800 and could include preconstruction data recovery collections and excavations, and monitoring of earth-disturbing construction operations by one or more qualified archaeologists and representatives of the affected tribes (for areas where buried cultural deposits could be present). BPA would <u>likely</u> adopt mitigation measures in its Record of Decision and would develop contracts as necessary to establish a binding commitment <u>from the developer</u> to implement the mitigation measures. (☞) B. A cultural resources mitigation monitoring plan (CRMMP) could be prepared in consultation with the affected tribes, BPA, Benton County, and the Washington State Historic Preservation Office (SHPO). It would provide a detailed plan to guide the archaeological and tribal monitoring of earth-disturbing construction and would outline specific procedures to be followed if unanticipated discoveries were made during construction. The CRMMP would include procedures for issuing stop-work orders to construction contractors if discoveries were made and would also outline possible mitigation measures (treatment plans) to be employed in the event that significant cultural resources were discovered. The CRMMP would include procedures to deal with the unanticipated discovery of Native American skeletal remains consistent with all applicable state and federal laws and regulations. <u>Measures similar to those that would be covered in</u>	Low

TABLE S-1

Potential Impacts and Mitigation of the Proposed Maiden Wind Farm

Potential Impact	Impact Level Prior to Mitigation	Proposed Mitigation Measures <i>(S)</i> = Standard design and/or construction measures proposed as part of the project to reduce potential impacts <i>(P)</i> = Additional mitigation proposed to further reduce potential impacts	Residual Impacts After Mitigation
		<u>the CRMMP would also be written into the construction contracts if mitigation for cultural resources is implemented.</u> (P) C. If TCPs are determined to be present, mitigation measures would be developed in consultation with the Yakama Nation and Wanapum Band. (P)	
8. Transportation and Traffic			
Construction Some vehicles would likely have a gross vehicle weight (GVW) of more than 80,000 pounds (maximum legal load limit) when fully loaded. Construction vehicles would use Benton County paved roads (Gap, Hinzerling, Snipes, and Crosby), in addition to portions of Rothrock, Bennett, Rotha, Crooks, Jones, and Missimer Roads, which are all gravel. None of these county roads were built to withstand the proposed loads. Some or all of these roads may need to be upgraded to support construction vehicles.	Moderate to High	A. Prior to construction, the project developer would coordinate with Yakima and Benton Counties <u>and the Washington Department of Transportation</u> to determine road capacity limits, obtain any necessary overweight permits, and agree on other steps to accommodate overweight loads or avoid road damage. (S) B. Prior to construction, the project developer and a representative of the County Public Works Department would videotape any county roads proposed to be used. A written agreement would be established between both Benton and Yakima Counties and the project developer and construction contractor stating that all roads would be restored to the same or better condition than they were before construction. (P)	Low

Purpose of and Need for Proposed Action (Chapter 1)

Page 1-5, Table 1.4-1, one entry is modified and five entries are added as follows:

TABLE 1.4-1

Permits and Approvals Required for the Proposed Project

Agency	Permit	Reason for Permit
Washington State Department of Ecology	National Pollutant Discharge Elimination System <u>and State Waste Discharge Stormwater General Permit for Discharges Associated with Construction Activities</u> 4200-C	Erosion control <u>Minimize stormwater waste discharges to waters of the state</u>
<u>Washington State Department of Ecology</u>	<u>Short-term Use of Water</u>	<u>Possibly required for use of water during construction for cement mixing and dust control</u>
<u>Washington State Department of Fish and Wildlife</u>	<u>Hydraulic Project Approval</u>	<u>Road improvements crossing Sulphur Creek. Issued in conjunction with U.S. Army Corps of Engineers Nationwide Permit through the JARPA</u>
<u>Washington State Department of Transportation</u>	<u>Overweight and/or Oversize Permits</u>	<u>Travel over State highways with oversize or overweight trucks to deliver wind turbine parts</u>
<u>Benton County Department of Public Works</u>	<u>Overweight and/or Oversize Permits</u>	<u>Travel over county roadways with oversize or overweight trucks to deliver wind turbine parts</u>
<u>Yakima County Public Works Department/Permit Services Office</u>	<u>Overweight and/or Oversize Permits</u>	<u>Travel over county roadways with oversize or overweight trucks to deliver wind turbine parts</u>

Proposed Action and Alternatives (Chapter 2)

Page 2-5, paragraph 3, the first sentence is modified as follows:

Construction of the project could begin in ~~summer 2002~~ early 2003, with at least partial power generation expected as early as ~~winter 2002~~ December 2003.

Page 2-8, Table 2.1-3, the following entry is modified as follows:

TABLE 2.1-3

Wind Turbine Sizes Considered for Maiden Wind Farm

kW Output	Maximum Height	Quantity for 200-MW Project	Quantity for 494-MW Project
1,500	389 <u>374</u>	133	330

Page 2-15, paragraph 6, the first sentence is modified as follows:

It is expected that construction activities could begin in ~~summer 2002 or early 2003~~, and operation could begin as early as in winter 2002-December 2003.

Affected Environment and Environmental Consequences (Chapter 3)

Land Use and Recreation

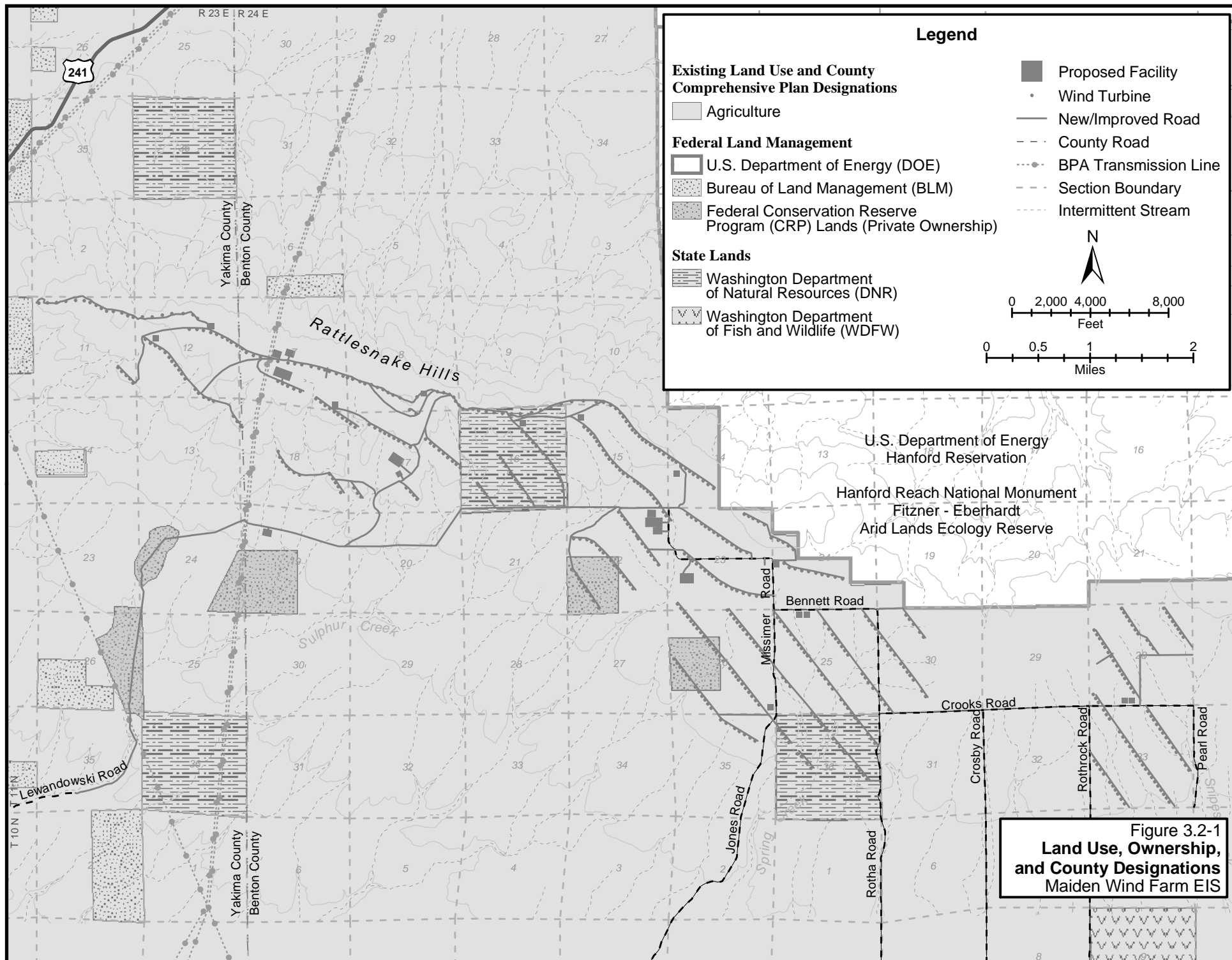
Page 3-4, Figure 3.2-1 is replaced with the figure following this page:

Page 3-5, paragraph 4 is modified as follows:

Scoping comments raised ~~a concerns~~ about ~~a potential for~~ land use conflicts with two research facilities located on the nearby DOE Hanford Site that are sensitive to seismic vibration and acoustic noise. The Laser Interferometer Gravitational-Wave Observatory (LIGO) is located approximately 11 miles east of the project site. The sensitive gravitational-wave astronomy equipment located at the LIGO facility must be isolated from ground vibrations and acoustic influences in order to measure gravitational waves (Sanders, 2000). The LIGO facility location was chosen for its exceptionally low levels of seismic noise and vibration, and the likelihood that these levels would remain low in the foreseeable future. The Battelle Gravitational Physics Laboratory Research Observatory (BGPLRO) also is located at the Hanford Site, approximately 6 miles ~~northeast~~ of the project site. The ~~BGRO~~BGPL facility, located in an old NIKE ~~missile~~ bunker, contains sensitive equipment designed to measure extremely small movements and is very sensitive to ground vibrations (Boynton, 2001). Research at the ~~BGRO~~BGPL facility is currently being conducted by staff from the University of Washington and the University of California Irvine.

Page 3-5, paragraph 6 is modified as follows:

No ~~designated or~~ developed recreational facilities exist in the study area. The ALE is not currently open for general public use but is accessible for research studies and field trips through special use permits. ~~Except for two sections of land owned by DNR, the majority of the study area is on private fenced land. The only identified~~ On private land, dispersed outdoor recreational activities ~~is include~~ hunting, ~~which is allowed in some areas only with landowner permission. Other types of dispersed outdoor recreation, such as hiking, horseback riding, camping, wildlife observation, photography, and off-road vehicle use, all of which may occur on private land with landowner permission. These activities also occur on the WDFW Wildlife Area that covers several sections of land approximately one mile southeast of the project site, as well as on the DNR section in the southeastern portion of the project site. Access to the DNR section in the north central portion of the project site is restricted because it is surrounded by private land; however, recreationalists using private lands may also use this DNR parcel.~~



Page 3-6, paragraph 6, the first sentence is modified as follows:

The sensitive research facilities (i.e., LIGO and BGPL) located on the Hanford Site could potentially be impacted by project construction activities (e.g., blasting for foundations, trenches, and quarry operations).

Page 3-7, paragraph 3 is modified as follows:

The LIGO and ~~BGR~~BGPL research facilities would be notified in advance of construction activities with the potential to cause significant vibration or noise.

Page 3-7, paragraph 6 is modified as follows:

Although current CRP legislation allows placement of wind turbines on CRP if certain conditions are met, CRP contracts would more likely be terminated on the acreage where permanent project facilities would be located. The project developer would convert the lease of these properties and withdraw the properties from the CRP program in coordination with the NRCS and landowners. The small area of land (less than 100 acres) that would be taken out of the CRP program would result in a low impact because proposed mitigation measures for vegetation and wildlife impacts include revegetation, replacement, or enhancement of ~~ing,~~ ~~protecting, and creating additional natural habitat on existing private lands, particularly CRP land,~~ near the project site.

Page 3-7, paragraph 9 is modified as follows:

The scientific programs at the LIGO and ~~BGR~~BGPL facilities located on the Hanford Site could potentially be adversely impacted by seismic vibrations and acoustic noise from the operation of the wind turbines. Although such an impact is not expected due to the expected low levels of vibration that would be generated by the project and the distance between the project and these facilities, the levels of impacts are difficult to determine given the unique type of facilities. ~~Completion of a~~ A seismic vibration study is required to ~~was conducted to attempt to determine the full impact of the project on the facilities~~ LIGO. The results of the seismic study were inconclusive. Due to the great uncertainty of possible effects and the highly speculative nature of any analysis that could be conducted, it is likely that a study for the BGPL facility would lead to the same conclusion. If operations at the facilities were substantially impaired, this would be considered a high and significant impact.

Page 3-8, paragraph 1, the last sentence is modified as follows:

The developer is working with the owners of these facilities to ~~determine if there would be~~ avoid land use conflicts.

Page 3-8, paragraph 3 is replaced with the following:

If high and significant impacts to the LIGO facility occur, possible mitigation could include funding the installation of vibration isolators to minimize the potential for vibrations from the proposed project to affect this facility. No mitigation is known that would mitigate potential impacts from the project to the BGPL facility if they occur, other than funding relocation of this facility.

Page 3-8, paragraph 8 is modified as follows:

Given the generally low population density of the area and the limited public lands, few recreational users would be anticipated near the proposed project site; therefore, impacts to recreational activities would be low. ~~No designated-developed~~ public recreational facilities exist in the study area so no impacts to this type of recreation would occur. Limited temporary impacts to private landowner-approved activities such as hunting or photography could occur during project construction, operation, and decommissioning; however, these impacts would be low. The proposed project would not be expected to affect recreation on the WDFW Wildlife Area because of its distance from the project site. Access to the DNR parcels in the project site would likely be restricted for safety reasons if turbines were to be located there; however, this impact would be low because of the limited recreational use of these parcels and the existence of similar recreational opportunities in the study area (see Figure 3.2-1). The ALE is not currently open for general public use and would therefore not be affected by the project.

Vegetation

Page 3-13, paragraph 1, the third sentence is modified as follows:

~~Often, t~~This climax community is not currently present at the site due to ongoing or past disturbance (e.g., fire, grazing, noxious species invasion).

Page 3-14, Table 3.3-1, the following entries are modified as follows:

TABLE 3.3-1
Habitat Types in the Maiden Wind Farm Study Area

Basic Type	Habitat Type	Percent of Study Area	Acres	General Habitat Description
	Rock outcrop/shrub	<0.001	12	Rocky outcrops and associated shrubs, including chokecherry and squaw current; giant wildrye often present. Potential feeding, perching, and nesting habitat for birds, and cover for game species and other wildlife.
Wetlands	Emergent wetlands	<0.001	3	Wetland habitat dominated by plants that tend to grow in wet areas; potential to support sensitive wildlife species varies depending on habitat quality (degree of grazing/weeds).

Page 3-24, paragraph 1, the first sentence is modified a second sentence inserted as follows:

For this evaluation, all shrub-steppe and lithosol habitats, whether formally designated as priority habitat or not, were considered to meet the WDFW criteria for priority habitats, along with riparian habitat along Sulphur Creek. WDFW has not designated any grassland-steppe as priority habitat in the study area.

Page 3-25, the following bullet is added to the list at the top of the page:

?? Potential to change fire frequency and intensity.

Page 3-27, the first bulleted item is modified as follows:

?? Total acres of shrubs-steppe, grassland-steppe, and lithosol habitat types removed or damaged as a result of project construction, whether formally designated as priority habitat or not, would be revegetated, replaced, or enhanced in similar proportions at a ratio of 3:1 (3 acres revegetated, enhanced, or replaced for each acre impacted) either by enhancing local CRP lands to facilitate their recovery to high-quality steppe habitat, or by creating steppe habitat from nearby agriculture lands by reclaiming them with native grass and shrub species. Revegetation of temporarily impacted acres would be included in the 3:1 ratio. In selecting mitigation areas, priority may be given to areas with remnant lithosol habitat, as lithosol is extremely difficult to replicate, as well as areas that would best enhance reproductive rates of wildlife species likely to be impacted by the project. Any enhanced or replacement acres would be protected for the life of the project from development, grazing, or conversion to other habitat types.

Page 3-28, the seventh and eighth listed items are modified as follows:

?? ~~size, location, and type of offsite habitat enhancement/replacement for revegetating, replacing, or enhancing~~ the estimated 57.5 acres of shrub-steppe, ~~and~~ 12.2 acres of lithosol, and 57.2 acres of grassland-steppe permanently impacted by the project;

?? ~~selecting recipient sites, restoration plans, and protocols for revegetating, replacing, or enhancing~~ the estimated 174.4 acres of shrub-steppe, ~~and~~ 50.9 acres of lithosol, and 187 acres of grassland-steppe habitat that would be temporarily impacted by project construction activities;

Wildlife

Page 3-33, paragraphs 1, 2, and 3, and Table 3.4-1 are modified as follows:

An avian baseline study ~~is currently being~~ was conducted in the study area to collect specific information regarding wildlife and avian resources within and around proposed project facilities. ~~An interim~~ technical report containing additional details regarding the results of the field surveys is available for review at BPA or the Benton County Planning and Building

Department on request. Table 3.4-1 summarizes the field surveys conducted for the avian baseline study that addressed wildlife and their habitat, either directly or peripherally.

TABLE 3.4-1
Summary of Field Surveys

Date	Nature of Survey
4/01 – 4/02 ^{current}	Avian Use Surveys: Emphasis on locating raptors and other large birds; point count surveys at eight permanent (fixed) plots; half-mile radius observation plot.
5/01, 6/01, 7/01	Paired plot bird surveys: Emphasis on recording breeding passerines; point count surveys at 15 paired plots 985 feet apart (30 total plots).
4/30 – 5/02/01 and 6/18 – 19/01	Raptor nest survey: Surveys conducted by helicopter to locate raptor and large bird nests visible from the air; survey area included a 5-mile radius of the site.
5/21 – 25/01	General vegetation mapping: Ground-truthing of plotted vegetation types from Benton County aerial photos.
4/01 – 4/02 ^{current}	General wildlife observations: Conducted while on site during other surveys.

Field surveys in the study area included weekly point counts for raptors and all birds, point count breeding season bird surveys monthly from May to July, raptor nest surveys, general vegetation mapping, and general wildlife observations. In addition to the avian study, rare plant surveys and wetland investigations were also conducted and provided additional information on study area habitats (see Sections 3.3, Vegetation, and 3.8, Water Resources and Wetlands). The field surveys were designed to record avian species seen on the site and provided opportunity for observing and recording other fauna such as mammals and reptiles. In addition to species observed during the field surveys, species that were incidentally observed while in transit between survey points were also noted, but were not included in the statistical analyses. The vegetation mapping provided a list of habitat types in the study area. Habitat types were cross referenced with habitat preferences and known distribution of special status species to determine potential for their occurrence in the study area.

Data collected from the field surveys were compiled and analyzed to address specific questions about bird use of the study area. A summary of the major findings ~~by season from the spring, summer, and fall surveys,~~ and potential impacts to wildlife and special status species is provided in the following sections. ~~The results of the winter surveys will be incorporated into the final technical report and into the Final EIS.~~

Page 3-34, paragraph 3, the last sentence is modified as follows:

No federally-listed or candidate wildlife species were documented in the study area during the field surveys, except for the bald eagle as discussed below.

Page 3-34, paragraph 5 is modified as follows:

Bald Eagle (Federal and State Threatened). A bald eagle has been observed nearby on the ALE. Also one bald eagle was observed incidentally outside of specified survey times in the study

area on March 20, 2002. This eagle was observed foraging on some unidentified carrion with a group of approximately 15 ravens; however, it has not been recorded during avian or raptor nest surveys of the study area. ~~Although bald eagles may occasionally forage in the study area, due to the aquatic nature of their primary prey base and the limited nesting opportunities (large trees), bald eagles are unlikely to breed or forage frequently within the study area. Their occurrence in the vicinity of the project is expected to be infrequent and limited to the migration or winter seasons. However, they may migrate through the study area to suitable wintering areas along the Columbia River.~~

Page 3-34, paragraph 7 is modified as follows:

Western Sage Grouse (Federal Candidate; State Threatened). Western sage grouse is a possible rare resident based on recent winter observations of this species on the ALE, ~~however, no sage grouse were observed in the study area during the avian surveys or incidentally to the surveys; however, results of winter surveys when sage grouse could potentially occur in the study area are not yet complete. No Western sage grouse occurrence in the vicinity of the project is expected to be infrequent and probably limited to the winter when most observations occur on the ALE have been documented in the study area and they are unlikely to occur.~~

Page 3-35, Table 3.4-2, the following entries are modified as follows:

TABLE 3.4-2

State and Federal Special Status Species of Known or Potential Occurrence in the Study Area

Common Name and Scientific Name	Federal Status	WDFW Status	Occurrence in Study Area	Occurrence Documentation
Birds				
Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	T	Not d Documented on site. Unlikely breeding resident due to lack of habitat, possible migrant or winter transient; observed on ALE <u>and one observation on site.</u>	LaFramboise and LaFramboise, 1999
Golden eagle (<i>Aquila chrysaetos</i>)	N/A	C	Documented on site. No nest sites found; two six observations during fall/winter/spring avian surveys; winter use on ALE; winter occurrence use is likely highest than spring/summer/fall; may forage within study area.	LaFramboise and LaFramboise, 1999; Young et al., 2001

Codes:

E = Endangered.

T = Threatened.

C = Candidates.

SoC = Species of concern (Federal).

N/A = Not applicable.

Page 3-40, paragraph 2 is modified as follows:

During public scoping, concern was raised over potential impacts to big game species from the proposed project. Based on agency information, literature review, and observations on the site, elk (*Cervus elaphus*) and mule deer (*Odocoileus hemionus*) occur in the study area, primarily along the ridgeline of Rattlesnake Ridge and the adjoining slopes. However, mule deer also have been observed in the eastern portion of the study area, which is primarily wheat fields. During avian surveys between April ~~and October~~ 2001 and April 2002, a total of ~~167-176~~ elk and ~~15-67~~ mule deer were observed in ~~four-five~~ and ~~six-17~~ groups, respectively (Young et al., 2002).

Page 3-41, paragraphs 2 and 3 are modified as follows:

While the avian use surveys of the study area were designed to record all birds observed, the surveys focused on two avian groups – raptors and other large birds believed to be susceptible to impacts from wind plants, and grassland-/shrub-steppe passerine species which breed in these habitats in the study area. General results of the surveys are presented below. Results of all the paired plot surveys are presented in the interim a technical report that is incorporated by reference and available for review at BPA or the Benton County Planning and Building Department upon request. In general, results of the two avian survey types were consistent and the results presented below are representative of the study area. More detailed results of the ~~two~~ studies are found in the ~~interim~~ technical report.

Fixed Point (Raptor and Large Bird) Surveys. A total of ~~232-336~~ 30-minute point count surveys were conducted between April 20 ~~and October 28~~, 2001 and April 11, 2002. Surveys were conducted at eight fixed stations (point count stations) once a week (Figure 3.4-1). A total of ~~40-62~~ avian species were observed during the fixed point surveys (Table 3.4-4). As expected, passerines were by far the most numerous group. Species abundance varied by season, however, overall, Hhorned lark, western meadowlark, vesper sparrow, and dark-eyed junco were the four most numerous passerines observed. Passerines comprised ~~82.9-81.0~~ percent of the total number of birds observed and raptors comprised ~~5.5-5.3~~ percent of all birds observed. Over all seasons, Northern harrier, American kestrel, red-tailed hawk, and Swainson's hawk were the four most common raptors observed. Corvids (magpies, crows, and ravens) comprised ~~9.4-9.6~~ percent of all birds observed. Other birds (~~primarily~~ upland game birds, doves, and waterfowl) comprised ~~4.0-4.4~~ percent of all birds observed. Only one ~~Three groups~~ of waterfowl (~~one two~~ flocks of ~~15~~ Canada geese and one flock of mallards) ~~was were~~ observed in the study area during the fixed point surveys. Upland game birds observed on the site included three non-native species (ring-necked pheasant, chukar, and Hungarian [gray] partridge).

Page 3-43, Table 3.4-4 is replaced with the following:

TABLE 3.4-4

Avian Species Observed Between April 20, 2001 and April 11, 2002

Group/Species (Status: F = Federal; WA = State)	Total Observations	Exposure Index	Average Avian Use	Frequency of Occurrence (%)	Percent Composition
<u>Corvids</u>					
<u>Black-Billed Magpie</u>	<u>11</u>	<u>0.00</u>	<u>0.03</u>	<u>2.68</u>	<u>0.28</u>
<u>Common Raven</u>	<u>444</u>	<u>0.46</u>	<u>1.16</u>	<u>44.50</u>	<u>9.79</u>
<u>Subtotal</u>	<u>455</u>		<u>1.19</u>	<u>45.69</u>	<u>10.06</u>
<u>Passerines</u>					
<u>American Goldfinch</u>	<u>523</u>	<u>0.00</u>	<u>0.07</u>	<u>0.89</u>	<u>0.58</u>
<u>American Pipit</u>	<u>22</u>	<u>0.00</u>	<u>0.07</u>	<u>0.60</u>	<u>0.55</u>
<u>American Robin</u>	<u>10</u>	<u>0.01</u>	<u>0.03</u>	<u>1.19</u>	<u>0.25</u>
<u>Barn Swallow</u>	<u>4</u>	<u>0.00</u>	<u>0.01</u>	<u>0.60</u>	<u>0.10</u>
<u>Brewer's Sparrow</u>	<u>25</u>	<u>0.01</u>	<u>0.07</u>	<u>5.62</u>	<u>0.62</u>
<u>Brown-Headed Cowbird</u>	<u>2</u>	<u>0.00</u>	<u>0.01</u>	<u>0.30</u>	<u>0.05</u>
<u>Cassin's Finch</u>	<u>11</u>	<u>0.00</u>	<u>0.03</u>	<u>0.89</u>	<u>0.28</u>
<u>Cliff Swallow</u>	<u>6</u>	<u>0.00</u>	<u>0.02</u>	<u>0.89</u>	<u>0.15</u>
<u>Dark-Eyed Junco</u>	<u>56</u>	<u>0.00</u>	<u>0.17</u>	<u>2.98</u>	<u>1.40</u>
<u>European Starling</u>	<u>2</u>	<u>0.00</u>	<u>0.01</u>	<u>0.30</u>	<u>0.05</u>
<u>Golden-Crowned Kinglet</u>	<u>4</u>	<u>0.00</u>	<u>0.01</u>	<u>0.89</u>	<u>0.10</u>
<u>Gray-crowned Rosy Finch</u>	<u>52</u>	<u>0.15</u>	<u>0.15</u>	<u>0.30</u>	<u>1.30</u>
<u>Grasshopper Sparrow</u>	<u>7</u>	<u>0.00</u>	<u>0.02</u>	<u>2.08</u>	<u>0.18</u>
<u>Horned Lark</u>	<u>2437</u>	<u>0.10</u>	<u>7.24</u>	<u>74.20</u>	<u>61.04</u>
<u>House Finch</u>	<u>23</u>	<u>0.06</u>	<u>0.07</u>	<u>0.89</u>	<u>0.58</u>
<u>Lapland Longspur</u>	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.30</u>	<u>0.03</u>
<u>Loggerhead Shrike</u> <u>(F: SoC; WA: C)</u>	<u>3</u>	<u>0.00</u>	<u>0.01</u>	<u>0.60</u>	<u>0.08</u>
<u>Mountain Bluebird</u>	<u>5</u>	<u>0.00</u>	<u>0.01</u>	<u>0.60</u>	<u>0.13</u>
<u>N. Rough-winged Swallow</u>	<u>20</u>	<u>0.06</u>	<u>0.06</u>	<u>0.60</u>	<u>0.50</u>
<u>Red-Breasted Nuthatch</u>	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.24</u>	<u>0.02</u>
<u>Rock Wren</u>	<u>11</u>	<u>0.00</u>	<u>0.03</u>	<u>2.98</u>	<u>0.28</u>
<u>Sage Thrasher (WA: C)</u>	<u>2</u>	<u>0.00</u>	<u>0.01</u>	<u>0.60</u>	<u>0.05</u>
<u>Savannah Sparrow</u>	<u>3</u>	<u>0.00</u>	<u>0.01</u>	<u>0.56</u>	<u>0.07</u>
<u>Say's Phoebe</u>	<u>2</u>	<u>0.00</u>	<u>0.01</u>	<u>0.60</u>	<u>0.05</u>
<u>Snow Bunting</u>	<u>8</u>	<u>0.02</u>	<u>0.02</u>	<u>0.30</u>	<u>0.20</u>
<u>Spotted Towhee</u>	<u>4</u>	<u>0.00</u>	<u>0.01</u>	<u>0.89</u>	<u>0.10</u>
<u>Swainson's Thrush</u>	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.30</u>	<u>0.03</u>
<u>Tree Swallow</u>	<u>12</u>	<u>0.00</u>	<u>0.04</u>	<u>0.30</u>	<u>0.30</u>
<u>Varied Thrush</u>	<u>2</u>	<u>0.00</u>	<u>0.01</u>	<u>0.60</u>	<u>0.05</u>
<u>Vesper Sparrow</u>	<u>69</u>	<u>0.00</u>	<u>0.20</u>	<u>13.08</u>	<u>1.69</u>
<u>Violet-Green Swallow</u>	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.24</u>	<u>0.02</u>
<u>Western Bluebird</u>	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.30</u>	<u>0.03</u>
<u>Western Kingbird</u>	<u>7</u>	<u>0.00</u>	<u>0.02</u>	<u>1.49</u>	<u>0.18</u>

TABLE 3.4-4

Avian Species Observed Between April 20, 2001 and April 11, 2002

Group/Species (Status: F = Federal; WA = State)	Total Observations	Exposure Index	Average Avian Use	Frequency of Occurrence (%)	Percent Composition
<u>Western Meadowlark</u>	<u>232</u>	<u>0.00</u>	<u>0.67</u>	<u>32.92</u>	<u>5.67</u>
<u>Western Tanager</u>	<u>4</u>	<u>0.00</u>	<u>0.01</u>	<u>0.30</u>	<u>0.10</u>
<u>White-Crowned Sparrow</u>	<u>14</u>	<u>0.00</u>	<u>0.04</u>	<u>0.60</u>	<u>0.35</u>
<u>Wilson's Warbler</u>	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.30</u>	<u>0.03</u>
<u>Yellow Warbler</u>	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.30</u>	<u>0.03</u>
<u>Yellow-Rumped Warbler</u>	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.30</u>	<u>0.03</u>
<u>Unidentified Blackbird</u>	<u>2</u>	<u>0.00</u>	<u>0.01</u>	<u>0.30</u>	<u>0.05</u>
<u>Unidentified Bluebird</u>	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.30</u>	<u>0.03</u>
<u>Unidentified Finch</u>	<u>35</u>	<u>0.00</u>	<u>0.10</u>	<u>0.30</u>	<u>0.88</u>
<u>Unidentified Flycatcher</u>	<u>8</u>	<u>0.00</u>	<u>0.02</u>	<u>1.19</u>	<u>0.20</u>
<u>Unidentified Passerine</u>	<u>185</u>	<u>0.10</u>	<u>0.55</u>	<u>2.20</u>	<u>4.62</u>
<u>Unidentified Sparrow</u>	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.30</u>	<u>0.03</u>
<u>Unidentified Swallow</u>	<u>12</u>	<u>0.01</u>	<u>0.04</u>	<u>2.05</u>	<u>0.30</u>
<u>Unidentified Warbler</u>	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.30</u>	<u>0.03</u>
Subtotal	3835		9.89	84.88	83.33
<u>Raptors</u>					
<u>American Kestrel</u>	<u>35</u>	<u>0.01</u>	<u>0.10</u>	<u>7.98</u>	<u>0.87</u>
<u>Prairie Falcon</u>	<u>12</u>	<u>0.03</u>	<u>0.04</u>	<u>3.75</u>	<u>0.32</u>
<u>Peregrine Falcon</u>	<u>2</u>	<u>0.01</u>	<u>0.01</u>	<u>0.30</u>	<u>0.05</u>
<u>Cooper's Hawk</u>	<u>4</u>	<u>0.01</u>	<u>0.01</u>	<u>1.19</u>	<u>0.10</u>
<u>Sharp-shinned Hawk</u>	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.30</u>	<u>0.03</u>
<u>Unidentified Accipiter</u>	<u>3</u>	<u>0.00</u>	<u>0.01</u>	<u>0.89</u>	<u>0.08</u>
<u>Ferruginous Hawk</u> (F: SoC: WA: T)	<u>6</u>	<u>0.01</u>	<u>0.02</u>	<u>1.49</u>	<u>0.15</u>
<u>Rough-legged Hawk</u>	<u>13</u>	<u>0.02</u>	<u>0.03</u>	<u>2.56</u>	<u>0.22</u>
<u>Red-tailed Hawk</u>	<u>30</u>	<u>0.04</u>	<u>0.08</u>	<u>5.89</u>	<u>0.65</u>
<u>Swainson's Hawk</u>	<u>26</u>	<u>0.05</u>	<u>0.06</u>	<u>4.34</u>	<u>0.54</u>
<u>Unidentified Buteo</u>	<u>40</u>	<u>0.02</u>	<u>0.04</u>	<u>3.54</u>	<u>0.37</u>
<u>Golden Eagle</u>	<u>6</u>	<u>0.01</u>	<u>0.02</u>	<u>1.19</u>	<u>0.15</u>
<u>Northern Harrier</u>	<u>51</u>	<u>0.00</u>	<u>0.14</u>	<u>12.11</u>	<u>1.20</u>
Subtotal	229		0.56	44.63	4.71
<u>Shorebirds</u>					
<u>Killdeer</u>	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.30</u>	<u>0.03</u>
<u>Waterfowl</u>					
<u>Mallard</u>	<u>8</u>	<u>0.00</u>	<u>0.02</u>	<u>0.30</u>	<u>0.20</u>
<u>Canada Goose</u>	<u>155</u>	<u>0.04</u>	<u>0.04</u>	<u>0.30</u>	<u>0.38</u>
Subtotal	163		0.07	0.60	0.58

TABLE 3.4-4

Avian Species Observed Between April 20, 2001 and April 11, 2002

Group/Species (Status: F = Federal; WA = State)	Total Observations	Exposure Index	Average Avian Use	Frequency of Occurrence (%)	Percent Composition
<u>Gamebirds</u>					
California Quail	<u>2</u>	<u>0.00</u>	<u>0.01</u>	<u>0.30</u>	<u>0.05</u>
Chukar	<u>17</u>	<u>0.00</u>	<u>0.05</u>	<u>2.02</u>	<u>0.42</u>
Gray Partridge	<u>4</u>	<u>0.00</u>	<u>0.01</u>	<u>0.30</u>	<u>0.10</u>
Ring-Necked Pheasant	<u>3</u>	<u>0.00</u>	<u>0.01</u>	<u>0.60</u>	<u>0.05</u>
Subtotal	<u>26</u>		<u>0.08</u>	<u>2.92</u>	<u>0.62</u>
<u>Doves</u>					
Mourning Dove	<u>21</u>	<u>0.00</u>	<u>0.06</u>	<u>1.49</u>	<u>0.53</u>
<u>Other</u>					
Northern Flicker	<u>3</u>	<u>0.00</u>	<u>0.01</u>	<u>0.89</u>	<u>0.08</u>
Unid. Hummingbird	<u>2</u>	<u>0.00</u>	<u>0.01</u>	<u>0.60</u>	<u>0.05</u>
Common Nighthawk	<u>1</u>	<u>0.00</u>	<u>0.00</u>	<u>0.30</u>	<u>0.03</u>
Subtotal	<u>6</u>		<u>0.02</u>	<u>1.79</u>	<u>0.15</u>
Total	<u>4736</u>				
Codes:	F = Federal WA = Washington	E = Endangered T = Threatened	C = Candidates SoC = Species of concern (Federal)		

Pages 3-45 paragraph 1 to 3-47 paragraph 1 is modified as follows:

Avian Use. A total of ~~1,078~~1,437 observations were made of ~~2,874~~4,736 individual birds during the fixed point (raptor and large bird) surveys (Table 3.4-4). These are raw counts of observations that were not standardized by the number of hours of observation, but provide an overall list of what was observed. Because individual birds were not marked, these counts also do not distinguish between individuals but provide an estimate of avian use of the study area.

Avian use by species was calculated as the average (mean) number of observations per 30-minute survey. For example, if one red-tailed hawk was observed on five ~~plot~~ surveys, its average use would be 0.2. However, it is unknown if this was the same bird seen five times or five different birds seen once. Table 3.4-4 provides an index of how often red-tailed hawks occur in the study area and therefore are at risk of being impacted by the proposed project. Any reference to abundance refers to the use estimates and not absolute density or numbers of individuals.

The three most abundant species documented in the study area were horned lark (~~58~~61.0 percent), common raven (9.8 percent), and western meadowlark (~~6.6~~5.7 percent). Together these species comprised more than ~~73~~76 percent of all birds observed during the fixed point surveys. On average, more than seven horned larks, one common raven, and approximately one western meadowlark were observed during each 30-minute survey.

The most abundant raptor observed was northern harrier, with ~~40-51~~ individuals observed, or approximately one northern harrier observed every ~~six-seven~~ surveys.

The bird use estimates for the study area, with the exception of a few common species, were similar or lower than other wind plants studied in the U.S. Raptor use of the study area was similar to other wind plants ~~that have been studied through the spring, summer, and fall~~. The most abundant raptors on the site based on use were northern harrier, American kestrel, and red-tailed hawk. Only ~~two-six~~ ferruginous hawks (state threatened species and federal species of concern) were observed during the surveys despite a ferruginous nest being located in the study area. As a group, raptor use of the study area was approximately ~~0.69-0.56~~ raptors observed per 30-minute survey, or roughly one raptor observed every ~~1.42~~ surveys. For comparison, raptor use ~~for spring, summer, and fall~~ at four wind plants studied with the same methods varied from slightly lower to much higher. Raptor use at the Condon Wind Plant, Oregon, was approximately 0.49 raptors per 30-minute survey; at the Vansycle Wind Plant, Oregon, raptor use was approximately 0.55 raptors per 30-minute survey; at the Buffalo Ridge Wind Plant, Minnesota, raptor use was approximately 0.74 raptors per 30-minute survey; and at the Foote Creek Rim Wind Plant, Wyoming, raptor use was approximately 1.10 raptors per 30-minute survey.

Exposure Index. The exposure index is a relative measure of the risk of each species observed on site during the fixed-point surveys coming in contact with a turbine. A higher exposure index implies that there is a potentially greater risk of an individual bird colliding with a turbine. The exposure index is based on the use (measure of abundance) of the site by the species and the flight characteristics observed for that species (percent of observations of the species flying and percent of observations of the species flying within the zone which would be occupied by turbine blades). Of the birds identified to species, Common raven, gray crowned rosy finch, northern rough-winged swallow, and horned lark had the highest exposure indices (Table 3.4-4). Unidentified passerines also had a high exposure risk. Horned lark was nearly always observed below the zone of risk, but because it was by far the most abundant species, it had one of the highest exposure indices. The exposure index for gray-crowned rosy finch was high because the one flock of 52 birds observed was seen flying within the zone of risk. Similarly, All observations of northern rough-winged swallows and snow bunting flying were also recorded within the zone of risk.

Mortality studies at other wind plants have indicated that although ravens are often observed at wind plants within the zone of risk, they appear to be less susceptible to collision with wind turbines than other similar size birds (e.g., raptors, waterfowl). Raptor species with the highest index include Swainson's hawk, red-tailed hawk, and northern harrier. Although northern harrier and American kestrel were the most abundant raptor species observed, both species were observed less often in the zone of risk than the ~~buteos species (ferruginous hawk, red-tailed hawk and, Swainson's hawk).~~

Avian Diversity (Frequency of Occurrence and Percent Composition). Frequency of occurrence and percent composition provide relative estimates of the avian diversity and species composition of the study area or what are the most frequently observed species in the study area and therefore most likely to be affected by the project. The frequency of occurrence was calculated as the percent of surveys where a particular species was observed within one-half mile (Table 3.4-4). Percent composition is represented by the mean use for a species divided by the total use for all species and multiplied by 100. The vast majority of species were observed in less than 5

percent of the surveys. The most frequently observed raptor was northern harrier, seen in approximately ~~14-12~~ percent of all surveys (frequency of occurrence) but comprising only ~~1.3-1.2~~ percent of all bird observations based on use estimates (percent composition). In contrast, horned larks were observed during ~~78-more than 74~~ percent of all surveys and comprised nearly ~~58-61~~ percent of all birds observed.

As a group, due primarily to the abundance of horned larks on the site, passerines comprised nearly ~~90-83~~ percent of all bird observations and were observed in more than ~~82-84~~ percent of all the surveys. Raptor use of the site as a group was relatively low with less than one raptor observed during each 30-minute survey and during approximately ~~42-45~~ percent of the surveys. Overall, based on the use estimates, raptors, as a group, comprised approximately ~~5.5-4.7~~ percent of all bird observations.

Page 3-50, paragraph 2 is modified as follows:

Bald Eagle (Federal and State Threatened). Based on available information, bald eagles are possible rare migrants or transients in the study area. A single bald eagle was observed foraging incidentally on site in the study area on March 20, 2002; however, they are not expected to occur on site in the study area on a regular basis because the lack of suitable prey base and nesting habitat but have not been documented and are not expected to occur on a regular basis. ~~However, results of winter surveys when the bald eagle would be most likely to occur in the study area are not yet complete.~~ Construction of the project would not be likely to impact bald eagles because of their lack of presence suitable habitat in the study area, and their infrequent occurrence in this area. Impacts to bald eagle would be low.

Page 3-50, paragraphs 4 and 5 are modified as follows:

Golden Eagle (State Candidate). Golden eagles are rare migrants and possible winter residents in the study area. During the fixed point surveys, One golden eagle was observed in the study area during fixed point surveys in the fall 2001, four golden eagles were observed in winter 2001-2002, and one was observed in spring 2002. They have also been documented on the nearby ALE during the winter in low numbers. They are not expected to occur in the study area on a regular basis. Construction activities would have little to no effect on golden eagles; therefore, impacts would be low.

Merlin (State Candidate). A single merlin was observed incidentally in the study area in April 2001, and was likely a migrant. Merlins are considered an uncommon migrant and winter resident on the ALE, and occupy riparian areas or migrate along Rattlesnake Ridge (LaFramboise and LaFramboise, 1999). There is no suitable nesting habitat in the study area and they are considered a rare migrant and/or unlikely winter resident. Impacts from construction of the proposed project would be low.

Page 3-51, paragraph 4, the second sentence is modified as follows:

In 2001, There were five inactive nests and three active nests located within 1 mile of the proposed project facilities.

Page 3-53, paragraph 3 is modified as follows:

Bald Eagle (Federal and State Threatened). Bald eagles are ~~possible~~ rare migrants or winter residents in the study area. No bald eagle fatalities have been documented at other wind plants (see Erickson et al., 2001). Because of their rare nature and habitat preferences, use estimates for bald eagles at other area wind plants are low. Bald eagle use estimates at the Foote Creek Rim Wind Plant, Wyoming, for spring, summer, and fall was 0.008 birds per 40-minute survey (Johnson et al., 2000a). During ~~5~~three years of carcass searches at Foote Creek Rim (69 turbines) no bald eagle casualties were located (Young et al., 2001). Operation of the proposed project would not be expected to cause bald eagle mortality due to their rare occurrence in the study area; therefore, impacts would be low.

Page 3-53, paragraph 6 is modified as follows:

Ferruginous Hawk (Federal Species of Concern; State Threatened). Ferruginous hawks are breeding residents of the study area. They were observed during surveys on the site and four active nests were located within 5 miles of the project site during 2001. Once the project is operational, ferruginous hawks may be at risk of collision with wind turbines. Ferruginous hawk use of the study area ~~in spring, summer, and fall of 2001 averaged across all seasons~~ was approximately ~~0.009~~0.02 birds per 30-minute survey, much lower than 0.052 birds per 40-minute survey recorded at the Foote Creek Rim Wind Plant in Wyoming (Johnson et al., 2000a). A conservative comparison would assume a uniform distribution of observations over time and thus approximately 0.04 birds/30 minutes on Foote Creek Rim. This estimate is two times greater than ~~four times the spring-summer-fall average~~ use by ferruginous hawks in the Maiden Wind Farm study area. During three years of carcass searches at Foote Creek Rim (69 turbines) no ferruginous hawk casualties were located (Young et al., 2001); however, collision fatalities have been recorded at the Altamont and Tehachapi Pass Wind Plants in California (Erickson et al., 2001).

Page 3-54, paragraph 2, the last sentence is modified as follows:

~~Expected~~ It is estimated that mortality of ferruginous hawks could be as high as one per year, which would be considered a moderate to high (significant) impact.

Page 3-54, paragraph 3, the last sentence is modified as follows:

~~Expected~~ It is estimated that mortality of golden eagle could be as high as one per year, which would be a low impact.

Page 3-54, paragraph 4, the fifth sentence is modified as follows:

Use estimates for these species at the Maiden Wind Farm project site ~~(based on the spring and summer surveys)~~ are relatively low (see Young et al., 2002).

Page 3-55 and 3-56, Table 3.4-6, the following entries are modified:

TABLE 3.4-6

Collision Risk Factors for Special Status Avian Species Known or Potentially Occurring in the Study Area

Species/ Federal and State Status	Risk Factors		Generalized Level of Risk (Impact Level)
	Behavioral and Environmental Factors	Abundance and Distribution Factors Based on Field Studies and Existing Information	
Bald eagle F: T WA: T	Feeds on carrion, fish, waterfowl in winter; wintering habitat along Columbia River; flight heights could include the rotor swept area	Not One individual observed in study area in winter , rare migration and winter occurrence on ALE; low abundance at Foote Creek Rim wind plant and no fatalities observed	Level of risk very low due to expected rare occurrence (low impact)
Golden eagle WA: C	Grassland and shrub-steppe species, nesting in trees or cliffs, hunts small/ medium mammals, birds, reptiles; flight heights include rotor swept area	One Observed in study area in fall, winter, and spring ; migration and winter records from ALE; fatalities at wind plants in California (primarily Altamont); common on Foote Creek Rim wind plant; but no fatalities observed during two year study	Level of risk considered low due to rare occurrence; risk may be greater in winter (low impact)
Codes:	F = Federal WA = Washington	E = Endangered T = Threatened	C = Candidates SoC = Species of concern (Federal)

Page 3-57, paragraph 5, the first sentence is modified as follows:

Passerines. Small birds with the highest use index of the study area were horned larks, western meadowlarks, vesper sparrows, and dark-eyed juncos~~grasshopper sparrows~~.

Page 3-58, paragraph 2, the fourth sentence is modified as follows:

Based on a 2-year study at Foote Creek Rim, the total annual mortality associated with 69 turbines was estimated to be approximately 1.7 birds per turbine per year and for five guyed met towers was estimated at 7.5 birds per tower per year.

Page 3-58, paragraph 3, the next-to-last sentence is modified as follows:

The per met tower mortality rate would be expected to be between 7 and 8 birds per tower per year if guyed met towers are used.

Page 3-60, paragraph 3 is modified as follows:

The following mitigation measures would be implemented to reduce impacts to special status species and other wildlife from operation of the project. Impacts to birds and other wildlife would also be mitigated by habitat revegetation, replacement, or enhancement as described in See Section 3.3, Vegetation, for mitigation of wildlife habitat.

Visual Resources

Page 3-62, paragraph 3 is modified as follows:

The visual setting consists of a large, irrigated valley containing a variety of crops (such as apples, pears, grapes, and cherries), rural residences, and the nearby communities of Sunnyside, Granger, Grandview, and Prosser, all located 10 or more miles south of the project site. The Rattlesnake Hills and Rattlesnake Mountain to the southeast dominate and define the northern portion of the valley and the Horse Heaven Hills dominate and define the southern portion of the valley. On the project site, vegetation consists of rangeland and wheat crops. There are several existing radio towers along the ridgeline of the Rattlesnake Hills, and two BPA transmission lines transect the western portion of the project site. A third BPA line is located just west of the study area. To the north of the Rattlesnake Hills lies the Hanford Reach National Monument's Fitzner-Eberhardt Arid Lands Ecology Reserve. The existing visual quality of the study area is considered moderate to high due to the unique features of the Rattlesnake Hills and the vast expanse of undeveloped area.

Page 3-73, paragraph 3 is modified as follows:

Among the FAA-approved lighting devices available, the developer would use those that are designed to be least visible from the ground level of the surrounding landscape, and least disruptive to nighttime bird and bat migrants.

Cultural Resources

Page 3-75 to 3-76, Section 3.6.2, Study Methodology, is modified as follows:

The proposed project site has been inventoried for cultural resources. This inventory fieldwork was conducted in two stages. During the summer of 2001, archaeologists determined the project's Area of Potential Effect (APE) and completed a reconnaissance survey of cultural resources within the APE in collaboration with representatives of the Wanapum Band of Indians. During the summer of 2002, archaeologists formally documented the identified cultural resources. This phase of the fieldwork focused on relocating and recording cultural resources identified in the project area during the reconnaissance survey. Shovel test pits (STPs) were excavated at select cultural resources to gather information on the presence or absence of subsurface cultural deposits and to define site boundaries. Together, these two stages complete the cultural resources inventory for the proposed project. This inventory focused on archaeological cultural resources specifically and did not include a study of Traditional Cultural Properties (TCPs) or address viewshed impacts to historic architectural resources.

The study area, designed to encompass all areas that could potentially be disturbed by construction and operation of the project, included all land within 50 feet of proposed temporary and permanent facilities. In most cases, the survey corridors were 150 feet wide, although in many areas several project facilities located together resulted in a wider survey area.

Archaeological investigation of the potential wind turbine strings, access roads, and other facilities was conducted in July, August, and September 2001 in collaboration with representatives of the Wanapum Band of Indians.

Additional details on the archaeological investigation are provided in the technical report titled Results of a Cultural Resource Inventory of the s Assessment for Maiden Wind Farm Area of Potential Effect, Rattlesnake Hills, Washington, which will be available from Benton County and BPA in early 2002.

The Yakama Nation was contacted and briefed on the proposed project but declined to participate in either phase of the archaeological surveys. The Yakama Nation also was invited to conduct any needed investigations of traditional use of the study area (such as native plant gathering and hunting) but declined to initiate such studies. The cultural resources analysis is based on information from field studies and from archival research.

Page 3-77, paragraph 4 is replaced with the following:

Forty-three cultural resources were formally documented within the APE defined for this project. These include two previously recorded prehistoric archaeological sites (45BN195 and 45YK61) and 41 previously undocumented archaeological resources. The latter include 11 prehistoric sites, 5 prehistoric isolates, 5 historic sites, 1 multi-component site, and 18 rock feature sites. The results of this identification stage are listed in Table 3.6-2.

Page 3-78, Table 3.6-2 is replaced with the following table:

TABLE 3.6-2
Identified Cultural Resources in the Study Area

<u>Field Number</u>	<u>Description</u>	<u>Shovel Tests (positive)</u>
<u>MSI-2</u>	<u>Lithic scatter</u>	<u>2 (1)</u>
<u>MSI-3</u>	<u>Prehistoric isolate</u>	
<u>MSI-5</u>	<u>Prehistoric isolate</u>	
<u>MSI-6</u>	<u>Prehistoric isolate</u>	<u>1</u>
<u>Turbine 152 isolate, AS 16, 32, 33, and 34</u>	<u>Prehistoric quarry, lithic scatters, historic-era feature</u>	<u>20 (3)</u>
<u>HF-1</u>	<u>Rock cairns</u>	
<u>AS-2</u>	<u>Rock cairn; lithic scatter</u>	<u>3</u>
<u>AS-3</u>	<u>Rock cairn</u>	
<u>AS-4, 5</u>	<u>Rock cairn</u>	<u>1</u>
<u>AS-6</u>	<u>Rock cairn</u>	<u>1</u>
<u>AS-7</u>	<u>Rock cairn</u>	
<u>AS-8</u>	<u>Rock cairn</u>	
<u>AS-9</u>	<u>Rock cairns; lithic scatter</u>	<u>2</u>
<u>AS-10</u>	<u>Rock cairn; rock wall</u>	<u>1</u>
<u>AS-11</u>	<u>Rock cairn; rock wall</u>	
<u>AS-12</u>	<u>Rock cairn</u>	

TABLE 3.6-2
Identified Cultural Resources in the Study Area

<u>Field Number</u>	<u>Description</u>	<u>Shovel Tests (positive)</u>
<u>AS-13</u>	<u>Rock features</u>	
<u>AS-15</u>	<u>Prehistoric isolate</u>	<u>3 (1)</u>
<u>AS-17</u>	<u>Rock features</u>	
<u>AS-18</u>	<u>Lithic scatter</u>	<u>2</u>
<u>AS-19</u>	<u>Lithic scatter</u>	<u>5 (2)</u>
<u>AS-21</u>	<u>Lithic scatter</u>	<u>6 (1)</u>
<u>AS-22</u>	<u>Lithic scatter</u>	<u>4</u>
<u>AS-23</u>	<u>Rock cairn</u>	
<u>AS-24</u>	<u>Rock cairn; isolated flake</u>	
<u>AS-25</u>	<u>Rock cairns</u>	
<u>AS-26</u>	<u>Rock cairn</u>	
<u>AS-27, 28</u>	<u>Rock cairns</u>	
<u>AS-29</u>	<u>Historical artifact scatter</u>	<u>1 (1)</u>
<u>AS-30</u>	<u>Historical artifact scatter</u>	
<u>AS-31</u>	<u>Rock cairn; isolated flake</u>	
<u>AS-35</u>	<u>Lithic scatter</u>	<u>8 (7)</u>
<u>AS-36</u>	<u>Historical artifact scatter</u>	<u>2 (1)</u>
<u>AS-37</u>	<u>Rock cairns</u>	
<u>AS-38</u>	<u>Historical artifact scatter; lithic scatter</u>	<u>2 (2)</u>
<u>AS-39</u>	<u>Lithic scatter</u>	<u>17 (8)</u>
<u>AS-40</u>	<u>Rock cairn; quarry</u>	<u>7 (3)</u>
<u>AS-41</u>	<u>Rock cairn</u>	<u>1</u>
<u>AS-42</u>	<u>Rock cairn</u>	<u>1</u>
<u>AS-43</u>	<u>Rock wall</u>	
<u>45BN195</u>	<u>Maiden Springs Site</u>	<u>12 (5)</u>
<u>45YK61</u>	<u>Sulphur Springs Site</u>	<u>10 (8)</u>
<u>AAR-ISO-2</u>	<u>Prehistoric isolate</u>	

Page 3-79, the following text is added after Table 3.6-2:

Site Types in the Project Area

The 43 cultural resources located in the defined project APE have been identified as prehistoric isolates, prehistoric lithic scatters, prehistoric quarries, rock features (including cairns, alignments, and talus pits), that may be prehistoric or historical, and historic-era dumps, and isolated historic-era objects. These categories are primarily descriptive but reflect function whenever possible. Functional categories cannot be ascribed to many sites at this time because of lack of information.

Prehistoric Isolates

Five prehistoric isolates were recorded as part of this project. The state of Washington does not specifically define the term “isolate” and for the purposes of this report, isolates are defined as assemblages consisting of fewer than 10 artifacts and excluding cultural features. Isolated rock features were recorded as sites rather than as isolates.

Prehistoric Lithic Scatter

Lithic scatters were recorded as part of thirteen resources. Lithic scatters are defined as relative concentrations of lithic artifacts primarily comprised of debitage but sometimes include formed stone tools. This is a general classification that does not indicate site function, which typically could not be determined at the survey level.

Prehistoric Quarries

Two outcrops of raw material were identified that had been utilized as prehistoric toolstone quarries. These quarries represent locales where naturally outcropping chert was collected and initially processed for tool manufacture. Tested and untested pieces of raw material, nodules of raw material, debitage, and shatter characterize the quarry sites. The debitage distinguishes quarry sites from other locales of outcropping and fractured chert. Tools used to quarry and process the material and tools in early stages of manufacture were notably absent from the artifact assemblages at the quarries.

Rock Features

Twenty-five cultural resources recorded during the archaeological inventory consisted of or included rock features. Rock features have been constructed by both Native Americans and Euroamericans and can serve a variety of functions. The rock features within the current project area can be categorized into two basic types: cairns and wall features. Single cairns, not associated with any other rock features or artifacts, were recorded as archaeological sites, not isolates.

Most rock features are cairns and consist of stacks of rock piled into conical or cylindrical forms. Cairns, particularly those visible in silhouette above their surrounding environment, generally serve as landscape markers. Such cairns can mark the location of water, grazing, or hunting resources or culturally important viewsheds. They can also be used to mark the location of religious ceremonies. In some cultures, cairns have been used as grave markers, and can indicate the location of buried or cremated human remains. In Euroamerican ranching landscapes, rock piles were used as fenceposts or post supports. Additionally, cairns can be constructed for no obvious reason, in instances where abundant rocks and idle time are available.

Rock walls can serve as barriers or can provide sheltered cover. They can function as wind breaks, hunting blinds, corrals, or fences or can result from field clearing activities. Talus pits are wall features found exclusively on talus slopes, where rock is removed from the upslope side of the pit and used to construct a wall on the downslope side. These features are generally considered to be hunting blinds.

Historic-era resources

Six resources documented in the project area date from or have components dating from the historic era. The Euroamerican historic-era resources generally contain domestic or

agricultural features and artifacts. The resources include surface scatters representing trash dumps, building foundations, pieces of farm equipment, and fence remnants.

Page 3-79, paragraph 2 is modified as follows:

Many of the cultural resources listed in Table 3.6-2 could be significantly and adversely affected by project construction in the study area. ~~Formal recordation of the identified cultural features as archaeological sites will take place in early 2002. Once formally recorded, the~~ The archaeological sites will be evaluated for their potential eligibility for inclusion in either the NRHP or the Washington Register of Historical Resources (WRHR) and ~~would will~~ be examined in relationship to the project site. Certain types of resources, isolates for example, usually do not contain significant or potentially significant information and thus are excluded from the consideration of project-related impacts. As a result, five of the resources in Table 3.6-2 can be evaluated as not significant. The remaining 38 resources must be further analyzed to determine their historical or cultural importance.

Page 3-80, paragraph 5 is modified as follows:

The Yakama Nation has declined participation in archaeological field studies and declined to undertake oral history investigations. The Cultural Resources Director for the Yakama Nation (Johnson Meninick) visited the project site in May 2002 and expressed concerns similar to the Wanapum elders' concerns, but no TCP report has been prepared. Therefore, information about TCPs of importance to the Yakama Nation is presently lacking. The information provided by the Wanapum elders and Yakama representative is strongly suggestive that a TCP is present on the ridgetops of the Rattlesnake Hills.

Page 3-80, the last sentence of paragraph 7 is modified as follows:

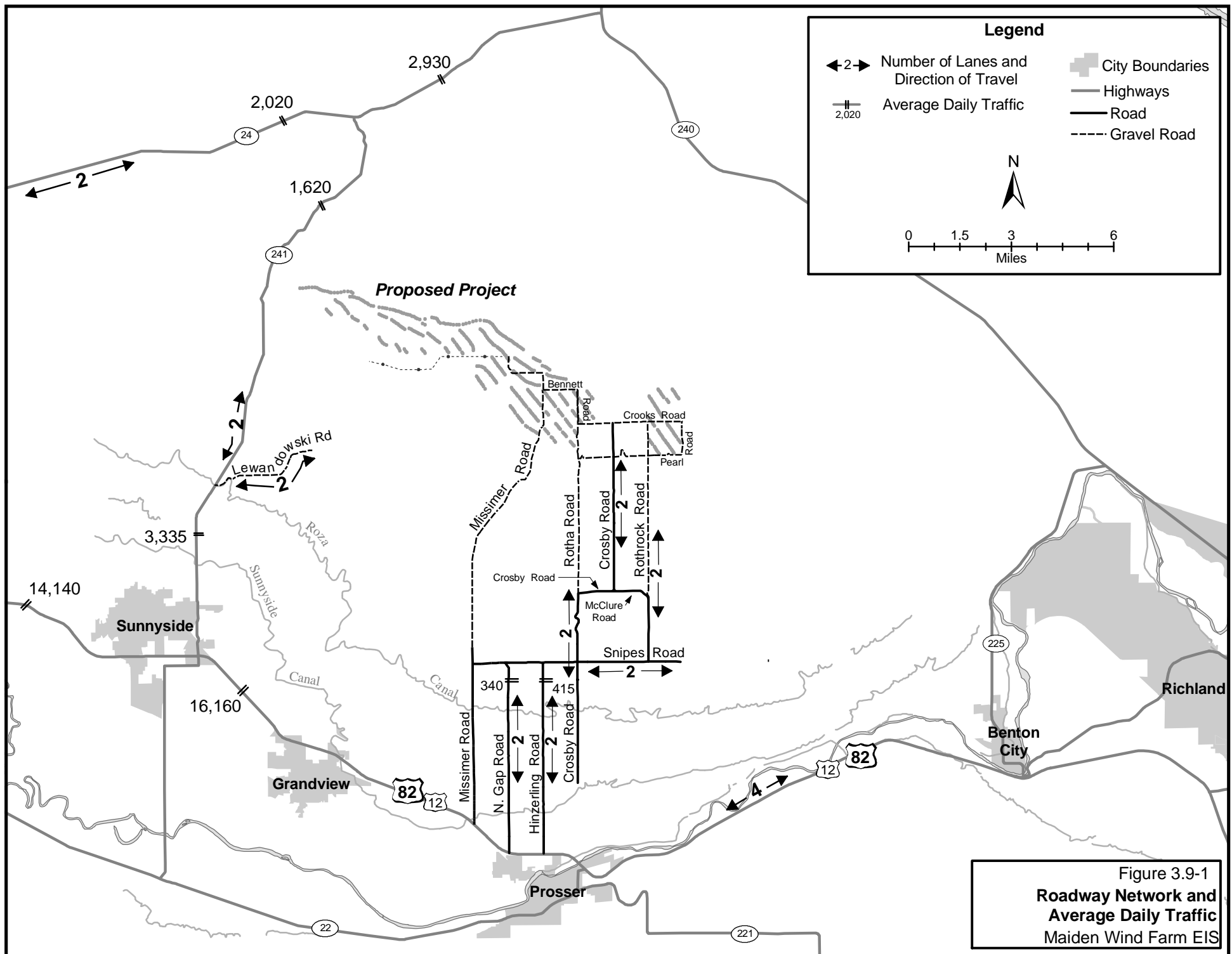
BPA would likely adopt mitigation measures in its Record of Decision and would develop contracts as necessary to establish a binding commitment from the developer to implement the mitigation measures.

Page 3-81, the following sentence is added to paragraph 1:

Measures similar to those that would be covered in the CRMMP would also be written into the construction contracts if mitigation for cultural resources is implemented.

Traffic and Transportation

Page 3-102, Figure 3.9-1 is replaced with the figure following this page.



Page 3-103, the following paragraph is added at the top of the page:

Interstate 82, SR 241, and Lewandowski, Gap, Hinzerling, Snipes, and Crosby Roads would be the primary roadways to and from the project site. In addition, construction vehicles would use portions of Rothrock, Bennett, Rotha, Crooks, Jones, and Missimer Roads, which are all gravel.

Page 3-103, paragraph 1 is modified as follows:

SR 241 is a two-lane north/south roadway with narrow 2- to 3-foot gravel shoulders, open drainage ditches, and no sidewalks. SR 241 is classified as a rural-collector roadway by the WSDOT road classification system, and has a posted speed limit of ~~50~~55 mph. The roadway provides a transportation connection from SR 24 to I-82. SR 241 extends to the City of Sunnyside and to I-82, approximately 10 miles south of the project site. To the north of the site, SR 241 connects to SR 24.

Page 3-103, paragraph 3 is modified as follows:

Lewandowski Road, in the western portion of the study area (off of SR 241), is an east/west county gravel roadway, without sidewalks, and has an irrigation canal adjacent to the roadway. This gravel ~~35-mph~~ roadway turns into a private road at Sulphur Springs Ranch. There is no posted speed limit on Lewandowski Road so the general county speed limit of 50 mph applies. Safe travel speed would vary by location, weather, and road conditions.

Page 3-103, paragraph 4 is modified as follows:

SR 24 is a two-lane east/west roadway with narrow 2- to 3-foot gravel shoulders, drainage ditches, and no sidewalks. SR 24 is classified as a rural-minor arterialecollector roadway by the WSDOT road classification system, and has variable speed limits ranging from 35 mph to 65 mph.

Page 3-104, Table 3.9-1, the entry for Lewandowski Road is changed and a new note is added as follows:

TABLE 3.9-1

Existing Conditions of Affected Roadways

Roadway	Classification	No. of Lanes	Average Daily Traffic Volume ¹	Hourly Design Capacity ²	PM Peak Hour Volume ³	PM Peak Hour LOS
Lewandowski Road	Arterial Rural Access	2	N/A 193	N/A DNA	N/A 31	N/A DNA

Notes:

¹ Estimated number of vehicles per day both directions.² Maximum number of vehicles per hour both directions for level of service (LOS) D.³ Vehicles per hour in both directions.

N/A = Not available.

SR = State Route.

DNA = Does not apply to this gravel road

Page 3-104, the following sentence is added to paragraph 1:

For Lewandowski Road, the p.m. peak hour is from 2:30 p.m. to 3:30 p.m.

Page 3-107, the following sentence is added to paragraph 2:

As discussed later in Section 3.10.4.2, construction would be minimized and gravel cover increased on roads during wet weather to reduce potential rutting and soil loss from roads.

Page 3-108, paragraph 3 is modified as follows:

Table 3.9-3 summarizes the projected average daily construction-related vehicle trips and the peak hour vehicle trips. Table 3.9-4 summarizes the traffic volumes and LOS of the local roadways during the construction period. The analysis was done showing all trips on every road to show the maximum impact that could occur on any given road if it were the only road used. Information on existing (background) traffic and LOS for Crosby, Snipes, and Lewandowski Roads was not available; however, because background traffic on these roads is very low, it is likely that the LOS would be C or better when project traffic is added to existing conditions. For the peak construction period, LOS C and better is the estimated level of service for a peak hour impacting the roadways. According to the Benton and Yakima County Plans, LOS C and better is acceptable; therefore, construction traffic would not reduce the LOS on the roadways to an unacceptable level and would have a low impact on local traffic.

Page 3-108, the following paragraph is added after Table 3.9-3:

In addition, the traffic from the proposed project on dirt roads could produce dust and impact visibility and air quality during traffic times. As discussed later in Section 3.12.4.2, a dust control plan would be implemented to reduce the impact of construction dust, including watering gravel roads to suppress nuisance levels of dust.

Page 3-109, Table 3.9-4, the entry for Lewandowski Road is modified as follows:

Existing Background Traffic is 193. Daily Combined Traffic is 831. PM Peak Background Traffic is 31. Combined PM Peak is 350.

Page 3-110, paragraph 1 is modified as follows:

Prior to construction, the project developer would coordinate with Yakima and Benton Counties' Public Works Departments and the Washington Department of Transportation to determine road capacity limits, obtain any necessary overweight permits, and agree on other steps to accommodate overweight loads or avoid road damage.

Socioeconomics and Public Services

Page 3-125, paragraph 1, the second sentence is modified as follows:

Full project construction is anticipated to take about 9 months, with preconstruction activities beginning in ~~summer 2002~~ early 2003.

Unavoidable Adverse Impacts

Page 3-137, paragraph 4 is modified as follows:

Scoping comments raised a concern about a potential adverse impact to operations at the LIGO and ~~BGRO~~BGPL facilities from project-generated vibration, and that this impact could be significant. Such an impact is not expected due to the expected low levels of vibration that would be generated by the project and the distance between the project and these facilities. ~~However, further studies will be conducted in consultation with the facilities to determine whether operation of the proposed project would disrupt the research facilities, and the results of these studies will be discussed in the Final EIS. However, the levels of potential impacts are difficult to determine given the unique type of facilities. A seismic vibration study was conducted to attempt to determine the full impact of the project on LIGO. The results of the seismic study were inconclusive. Due to the great uncertainty of possible effects and the highly speculative nature of any analysis that could be conducted, it is likely that a study for the BGPL facility would lead to the same conclusion. If operations at the facilities were substantially impaired and mitigation was not implemented, this would be considered a high and significant impact that would be unavoidable.~~

Page 3-138, paragraph 3 is modified as follows:

Development of the proposed project would result in a substantial alteration to the existing visual character and quality of the study area during the day and at night. The wind turbines would be visible to residents, agricultural workers, recreationists, and highway travelers in the project vicinity. In addition, lights required by the FAA would be visible at night. These impacts w~~ould~~ould be considered significant.

Cumulative Impacts

Page 3-139, paragraph 4 is modified as follows:

A list of present and reasonably anticipated future projects that would be expected to produce related or cumulative impacts within a reasonable distance of the Rattlesnake Hills is presented in Table ~~3.17-13.18-1~~. The information in this table was gathered from Benton and Yakima Counties' planning departments and BPA's public documents.

References and Literature Cited (Chapter 4)

Page 4-2, the following entry is added after the first entry:

Schofield, Robert. 2002. *Seismic Measurements at the Stateline Wind Project and a Prediction of the Seismic Signal that the Proposed Maiden Wind Project Would Produce at LIGO*. University of Oregon, Eugene, Oregon.

Page 4-7, the fifth entry is modified as follows:

Young, D.P., Jr., W.E. Ercikson, K.M. Bay, R.E. Good, and K., Kronner~~WEST, Inc.~~ 2002~~1~~. ~~Interim Report~~, *Avian Baseline Study for the Maiden Wind Power Project, Yakima and Benton Counties, Washington, Final Report*. April 2001- April 2002~~October 2001~~. Technical report prepared by Western EcoSystems Technology, Inc., Cheyenne, Wyoming, and Northwest Wildlife Consultants, Inc., Pendleton, Oregon.

Page 4-7, the following entry is added after the tenth entry:

Finley, Aimee A., Krey Easton, Bill Roulette. 2002. Results of a Cultural Resource Inventory of the Maiden Wind Area of Potential Effect, Rattlesnake Hills, Washington. Applied Archaeological Report No. 287. Technical report prepared by Applied Archaeological Research, Portland, Oregon.

List of Preparers (Chapter 5)

The following preparers are added to the list:

Finley, Aimee, Archaeologist, Applied Archaeological Research. Eight years of experience in archaeology and historic preservation. Education: M.S. Archaeology.

Roulette, Bill, Archaeologist, Applied Archaeological Research. 20 years of experience in cultural resource management. Education: M.A. Archaeology; registered professional archaeologist (RPA).
